Rotary Texturing Tool

with bit storage in handle

Russell Bremmer

Material	Quantity
Bit Holder	
Sleeve Bearing/bushing: 1/8" Inside Dia., ¼" Outside Dia., ¼" Long	3
Brass Nipple: 1/8" Nominal Pipe Size, 5" in length, Schedule 40	1
¼" x 1/8" rare earth magnet (disk)	1
¼" Heat Shrink (3/4" long)	1
¼" x 5" dowel rod	1
Tool Handle	
Spindle blank: 2 x 2 x 9 inches	1
Ferrule: 3/8" or 1/2" compression nut	1
Dremel Bits (1/8" shank)	
HSS Ball cutter, #114	1
HSS Cylindrical cutter, #115	1
HSS Flame cutter, #124	1

Required Tools
Pipe cutter
Heat gun, lighter, match
4-jaw chuck
Drill chuck
13/32" drill bit
1" Forstner bit
5/8" Forstner bit
Cone live center
Vernier/Dial caliper
Turning tools
Sandpaper
Epoxy

Bit Holder

1. Using epoxy, glue magnet to one end of dowel rod. Make sure magnet is aligned with dowel and allow to dry. Clean up any epoxy globs that prevent dowel from fitting in pipe.
2. Use a pipe cutter to cut threads off one end of pipe. Deburr end of pipe if necessary.
3. Slide bearings on the shank of Dremel bit (or 1/8" diameter rod) to align sleave bearings end to end. Slide heat shrink tubing over bearings. Use a heat source (heat gun, lighter, or match) to shrink tubing. This holds bearings in alignment and fills gap in between bearings and pipe inner diameter.
4. Apply epoxy to outside of bearings and dowel, insert bearings into the threaded end of pipe. Insert magnet end of dowel rod behind bearings. Use dowel as a plunger to push bearings until they are flush with unthreaded end of pipe. Apply twisting motion to dowel to help spread the epoxy. **What you don't want is epoxy inside the bearings!**
5. Allow to dry then cut any excess dowel flush with pipe.

Tool Handle

1. Mount blank between centers, rough turn only to knock off corners, and turn a tenon on the cap end; remove from lathe.
2. Remount blank with cap end in chuck, clean up ferrule end, mark parting line 5-1/2" from ferrule end, and turn tenon on ferrule end.

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3. Using a drill chuck, drill a 13/32″ hole, centered on ferrule end, 2” deep for the tang of the bit holder.
4. **Mark #1 jaw on blank for remounting. Mark a reference line through 5-1/2” parting line.**
5. Part off 5-1/2” from ferrule end. Use cone center to support. Set Ferrule end aside.
6. Clean up cap end, making slightly concave.
7. Drill a 1” dia. x ½” deep mortise in cap with 1” Forstner bit. Chamfer inside edge of mortise.
8. OPTIONAL: Dome inside of mortise no more than ¼” deeper.
9. Sand end grain through 400 grit, **DO NOT SAND INSIDE SURFACES**.
10. **Make sure #1 jaw is marked for remounting and remove cap end from chuck.**
11. Mount ferrule end in chuck, do not overtighten! Mark drill center and use 1” Forstner bit to mark tenon diameter.
12. Turn a 1” tenon to fit mortise in cap. **MUST BE A VERY TIGHT FIT!**
    a. Make tenon slightly under ½” long.
    b. Tenon shoulder must be slightly undercut.
    c. Chamfer outside edge of tenon.
    d. Sand tenon shoulder but NOT tenon face.
13. Drill a 5/8” x 1-1/2” pocket centered on tenon. This pocket is for storing the Dremel bits. Chamfer inside edge of tenon.
14. Place cap on tool handle, align reference mark, and remove whole handle from chuck.
15. Remount the tool handle with cap end in chuck, align with #1 jaw marks.
    a. Use a cone live center to center handle on the tang hole and provide pressure to the cap/jam chuck.
    b. Turn to round, watch gap between cap and handle body close.
16. Turn a tenon for the ferrule (~17/32” for 3/8” nut). Just tight enough to thread on compression nut. Use vernier or dial calipers to get accurate. **LIGHT CUTS!**
17. Epoxy ferrule (compression nut) on ferrule tenon. Allow to set up.
18. Use 13/32” bit in drill chuck to enlarge opening in compression nut.
19. Bring back cone live center and turn handle to desired shape.
    a. Keep cap outer diameter at least 1-1/4” at overlap.
    b. Disguise joint between cap and handle with beads and/or wire burn lines.
20. Start parting off cap at 6-1/2” from tip of ferrule**. Do not part off completely, leave enough material for sanding and finishing of handle body.**
21. Sand and finish handle body with your desired finish.
22. Part off tool handle and remove cap. With remaining material in chuck make a jam chuck to fit the cap. Shape, sand, and finish the top of the cap.
23. Epoxy bit holder into tool handle.

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Sources

Material	Source
Bit Holder	
Sleeve Bearing: 1/8” Inside Dia., ¼” Outside Dia., ¼” Long	Grainger/Amazon
Brass Nipple: 1/8” Nominal Pipe Size, at least 5” in length, Schedule 40	Grainger/Amazon (maybe Lowes/Home Depot)
¼” dia. x 1/8” rare earth magnet (disk)	Grainger/Amazon
¼” Heat Shrink (3/4” long)	Lowes/Home Depot
¼” x 5” dowel rod	Lowes/Home Depot
Tool Handle	
Spindle blank: 2 x 2 x 9 inches	Your hoard of wood
Ferrule: 3/8” or ½’ compression nut	Ace Hardware/Lowes
Dremel Bits (1/8” shank)	
HSS Ball cutter, #114	Amazon
HSS Cylindrical cutter, #115	Amazon
HSS Flame cutter, #124	Amazon